The Effects of Reading Literary Fiction on Absolute and Relative Visual Perception

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Introduction

Kidd and Castano (2013) demonstrated that reading literary fiction increases performance on theory of mind tasks (i.e., the ability to appreciate and understand what another might be thinking, feeling, etc.). The researchers claimed that literary fiction required participants to make inferences about characters’ state of mind, which consequently enhanced performance on theory of mind tasks. Making inferences requires one to appreciate the broader context in which behavior occurs. As such, reading literary fiction should orient participants to appreciating the context, even in a task that is not directly related to theory of mind.

The framed-line test (FLT; Kitayama, Duffy, Kawamura, & Larsen, 2003) is a visual perception task used to examine sensitivity to context. In this task, participants encounter a square (or frame) and a vertical line originating from the upper side of the frame and bisecting the frame to various degrees. Then, participants are given an empty frame and are instructed to either draw a vertical line that matches the exact length of the vertical line in the original frame (absolute judgment) or to draw a line that is proportionally equivalent to the original frame (relative judgment). Individuals living in the United States tend to perform better on the absolute task, presumably because of our individualist culture. Individuals living in Japan tend to perform better on the relative task, presumably because of their collectivistic culture.

Thus, the purpose of our study was to examine whether reading literary fiction, as opposed to popular fiction or a control expository article, affects performance on FLT. Based on the research examining the effects of literary fiction on theory of mind, we predicted that participants exposed to literary fiction would perform better on relative judgments in the FLT than those exposed to other reading material.

Participants

Participants consisted of 77 undergraduate students at Central Connecticut State University. All participants were native English speakers.

<table>
<thead>
<tr>
<th>Literary Fiction (n = 25)</th>
<th>Popular Fiction (n = 27)</th>
<th>Nonfiction (n = 25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Age</td>
<td>19.68</td>
<td>19.22</td>
</tr>
<tr>
<td>Biological Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female: 16</td>
<td>Male: 9</td>
<td></td>
</tr>
<tr>
<td>Female: 17</td>
<td>Male: 10</td>
<td></td>
</tr>
<tr>
<td>Female: 19</td>
<td>Male: 6</td>
<td></td>
</tr>
</tbody>
</table>

Materials & Procedure

**Independent and Interdependent Self Scale** (IISS; Lu & Gilmour, 2007).
- 42-item scale assessing levels of cultural independence (e.g., “I believe that people should try hard to satisfy their interests.”) and interdependence (e.g., “I believe that the family is the source of our self.”).
- 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

**Narrative Transportation Scale** (NTS; Green & Brock, 2000).
- 12-item measure assessing how “lost” in a text a reader becomes (e.g., “While I was reading the narrative, I could easily picture the events taking place.”).
- 7-point Likert scale from 0 (not at all) to 6 (very much).

**Positive and Negative Affect Schedule** (PANAS; Watson, Clark, & Tellegen, 1988).
- 20-item measure comprised of two 10-item mood scales that measure participants’ positive affect (e.g., excited, interested) and negative affect (e.g., upset, irritable).
- Asks participants to indicate to what extent from 1 (very slightly or not at all) to 5 (extremely) they feel a specific feeling or emotion at that moment.

**Literary selections** (Kidd & Castano, 2013).
- All literary selections were approximately 1100 words.

**Materials & Procedure**

**Literary Fiction**
- Don DeLillo, The Runner
- Tea Obreht, The Tiger’s Wife
- Alice Munro, “Conrie”

**Popular Fiction**
- Gillian Flynn, Gone Girl
- Danielle Steel, The Sins of the Mother
- W. Paul Young, Cross Roads

**Nonfiction**
- Paul Tough, Who Gets to Graduate?

**Framed Line Task** (FLT; Kitayama et al., 2003). This pencil-and-paper task measures participants’ orientation towards surrounding context. All participants received 20 trials, with equal numbers of relative and absolute trials. Trials were blocked by the type of judgment (absolute, relative) and the order of blocks was counterbalanced across participants.

**Procedure**

| Consent, Demographics, IISS | Pre-FLT | Read literary selections | Post-FLT | Transportation, PANAS, Debriefing |

Results

- Seven participants (literary fiction, n = 4; control, n = 3) were identified as outliers for FLT performance and were excluded from analysis.
- We conducted a 2 x 2 x 3 mixed-model ANOVA with time (before reading, after reading), judgment (absolute, relative), and reading material (literary fiction, popular fiction, nonfiction).
- The dependent variable was the absolute value of the deviation between the length of line drawn and the correct length of the line.
- Time x Judgment x Reading Material interaction: F(2, 67) = 3.91, p = .025, ηp2 = .104.
- Reading popular fiction resulted in significantly poorer performance on relative judgments, p = .006.
- There was a trend for literary fiction to increase error for absolute judgments, p = .085.
- This interaction remained even after controlling for narrative transportation, independence, interdependence, positive mood, and negative mood.

Conclusions

These findings indicate that reading particular types of fiction affects performance on a visual perception task, which is not considered to be sensitive to the type of reading material one encounters. We originally predicted that reading literary fiction would lead to disproportionately accurate relative judgments, as they require taking context into account. However, our findings suggest that reading literary fiction produces increased error in absolute judgments and slight improvement in relative judgments. Reading popular fiction produced a large decrease in performance on relative judgments. There are some limitations to the current findings. First, we did not replicate Kitayama and colleagues’ (2003) finding that US undergraduates perform better on absolute judgments compared to relative judgments. Second, we did not observe any statistically significant relationships between accuracy absolute and relative tasks and self-reported cultural independence and interdependence.

In summary, reading literary fiction has become a hot topic in psychological science because it can affect psychological processes associated with empathy. Our study provides preliminary evidence that reading literary fiction can also affect visual perception.
Success-Oriented Men and the Consequences of Work-Life Imbalance

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Hypermasculinity & Work-Life Conflict

What is gender role conflict?
Gender role conflict (GRC) occurs when one's gender identity results in negative consequences for oneself or others. Past studies indicate that hypermasculine men go to extreme lengths to avoid displaying stereotypically feminine attitudes or behaviors (O'Neil, Helms, Gable, David, & Wrightman, 1986; Vandello & Bosson, 2012).

How is this related to work-life balance?
Men experiencing GRC may choose to work long hours and neglect personal or family obligations in an attempt to demonstrate their status through achievement or power in the workplace (O'Neil, Helms, Gable, David, & Wrightman, 1986; Vandello & Bosson, 2012).

Why is this a problem for men?
Men spend more time at work and less time engaging in leisure. Past research indicates that leisure may aid in recovery from daily struggles. Physical, social, and mental health issues can be avoided by men who manage their workload appropriately (Mattingly & Bianchi, 2005; Wallace & Young, 2010).

Participants & Grouping Strategy

113 males that attend college full-time while working full-time

- Average age of participants was 20.04 years (SD = 2.44)
- 81.4% identified as Non-Hispanic White (n = 92)

Groups formed based on the Success, Power, and Competition (SPC) and Conflicts Between Work and Leisure (CWL) subscales of the Gender Role Conflict Scale (O’Neil et al., 1986):
- Low – Scored at or below the 25th percentile for the sample
- Moderate – Scored between the 25th and 75th percentile for the sample
- High – Scored at or above the 75th percentile for the sample

Outcome Measures for Two-Way Analyses of Variance

Internalizing tendencies:
- Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1997)
- State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970)
- Anxiety Sensitivity Index (ASI; Reiss, Peterson, Gursky, & McNally, 1986)
- Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965)
- Social Support Appraisals Scale (SSA; Vaux, Phillips, Holly, Thompson, Williams, & Stewart, 1986)

Externalizing tendencies:
- Aggression Questionnaire (AQ; Buss & Perry, 1992)
- Trait Anger Scale (TAS; Spielberger, 1988)

Results

Success, Power, and Competition Subscale* (GRC Scale)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Significance Value</th>
<th>Effect Size</th>
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<tbody>
<tr>
<td>Highest on AQ</td>
<td>Verbal p = .009</td>
<td>ηp² = .09</td>
</tr>
<tr>
<td></td>
<td>Aggression p = .035</td>
<td>ηp² = .06</td>
</tr>
<tr>
<td></td>
<td>Total Score p = .047</td>
<td>ηp² = .06</td>
</tr>
<tr>
<td>Highest on TAS</td>
<td>Anger p = .004</td>
<td>ηp² = .06</td>
</tr>
<tr>
<td></td>
<td>Temperament p = .001</td>
<td>ηp² = .15</td>
</tr>
<tr>
<td>Lowest on SSA</td>
<td>Anger p = .008</td>
<td>ηp² = .09</td>
</tr>
<tr>
<td></td>
<td>Family p = .008</td>
<td>ηp² = .09</td>
</tr>
</tbody>
</table>

* Figure 1.1 indicates statistically significant main effects for those scoring high on the SPC subscale.

Future Research:
- Longitudinal studies could be conducted to determine if work-life balance strategies could be employed by college students to prevent difficulties when men transition into professional careers during early and middle adulthood.

Limitations:
- These findings should be interpreted with some caution as self-report measures were utilized, introducing the potential for response bias. The participants in the study were primarily white, thus the sample may not be representative of all college students.

Discussion

Internalizing tendencies:
Men with lower levels of work-life balance and higher levels of competitive attitudes described higher levels of self-esteem (p = .014, ηp² = .11)